

R.I.T.

College of Science

Chester F. Carlson

Center for **IMAGING** SCIENCE

Seminar Series

Bases and reciprocal bases: Their Use for Describing Sensor Spectral Sensitivities and Spectral Power Distributions

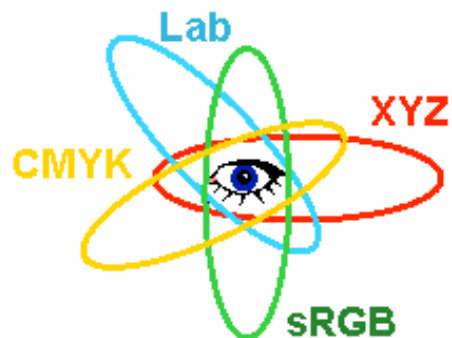
Sergey Bezryadin

*Vice President of Research
KWE International, Inc*

4pm

Wed, Sept. 20, 2006

Auditorium of the Center for Imaging Science



Mathematics is the language of science, and getting familiar and comfortable with one of its aspects, reciprocal bases, might be useful when approaching Colorimetry. Using vector approach, a color stimulus might be presented as a vector in a tristimulus space. Using reciprocal basis definition, we will discuss a transformation between basis and reciprocal basis in a vector space. Further, it will be shown that calculation of Color-matching functions for an arbitrary set of Primary Stimuli is conducted according to this basis-to-reciprocal-basis transformation rule. Use of reciprocal basis tool simplifies and clarifies a construction of Wyszecki-Cohen fundamental space and provides a fresh look at Cohen metric.

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Speaker Bio

Sergey Bezryadin received MS in Physics from the Moscow State University (1976) and PhD in Physics and Mathematics from the Moscow Institute of Electronic Technology (1982). He has extensive experience in computer modeling of physical processes in various domains of nuclear and solid state physics. In 2001, Sergey Bezryadin joined KWE International. Inc., in San Francisco, CA, with the role of Vice President of Research. His research focus is on building physical and mathematical foundation for High End TV Standard, including color description, digital image processing and compression.